

(No Model.)

J. R. DUNCAN.  
FIRE ESCAPE.

No. 545,155.

Patented Aug. 27, 1895.

Fig. 2

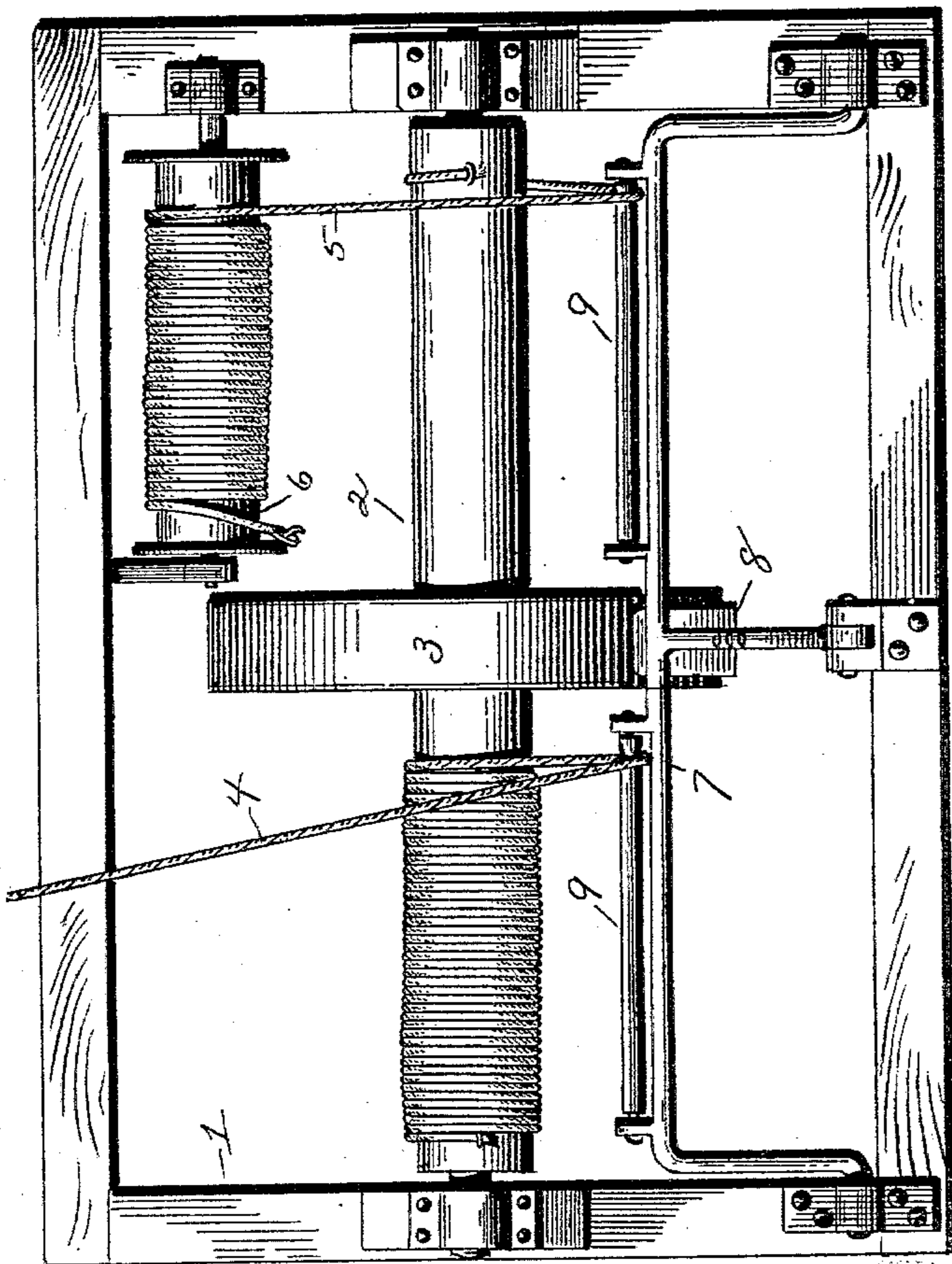
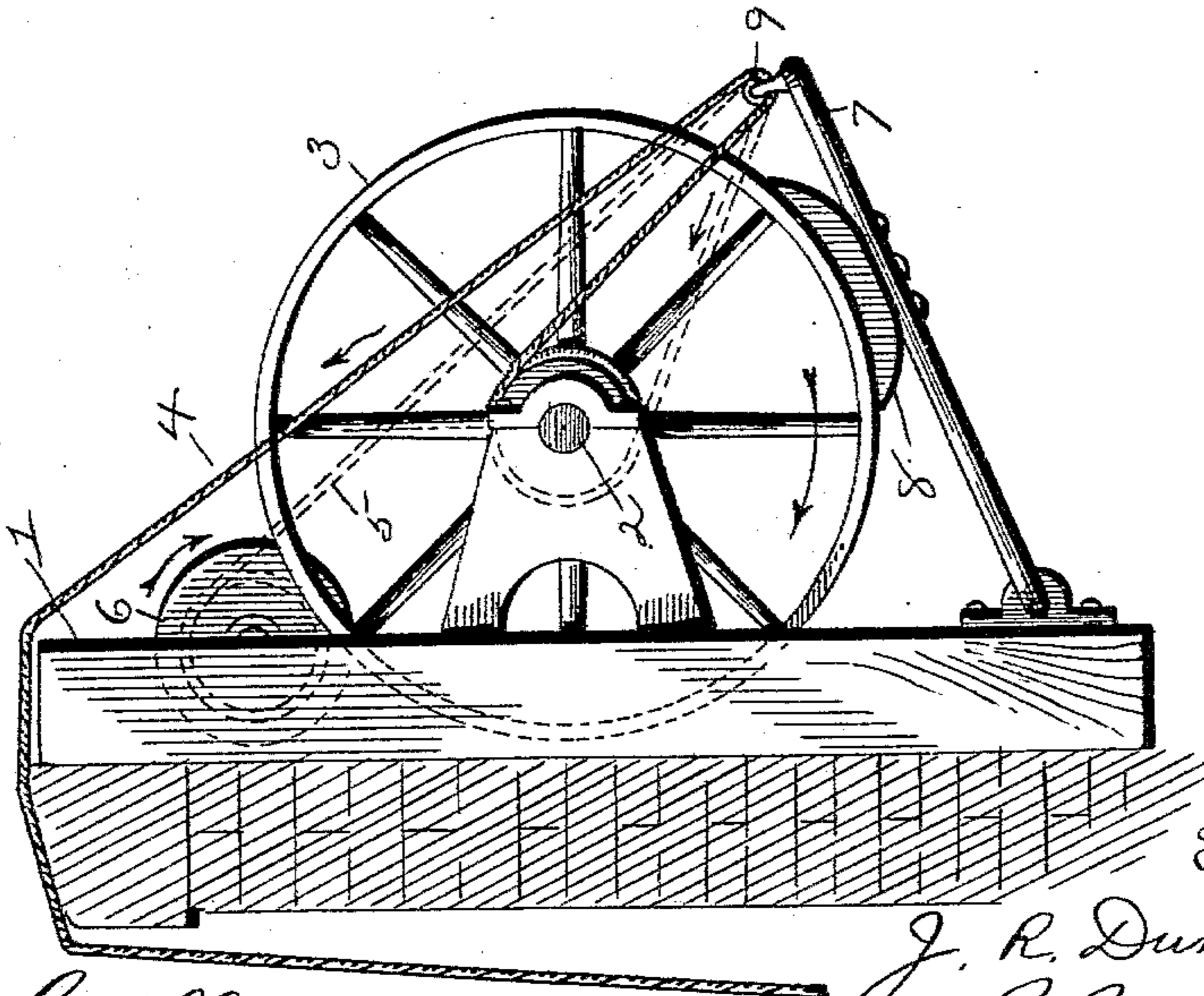


Fig. 1



Witnesses

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# UNITED STATES PATENT OFFICE.

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## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 545,155, dated August 27, 1895.

Application filed February 8, 1895. Serial No. 537,683. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN R. DUNCAN, a citizen of the United States, residing at Pittsburg Landing, in the county of Hardin and State of Tennessee, have invented a certain new, useful, and valuable Improvement in Fire-Escapes, of which the following is a full, clear, and exact description.

My invention has relation to fire-escapes; and it consists in the novel construction and arrangement of its parts, as hereinafter described.

In the accompanying drawings, Figure 1 is an end view of the fire-escape secured in place on the wall. Fig. 2 is a side view of the fire-escape.

The device consists of a frame 1, adapted to be secured to the wall, just under the window, on the inside. A shaft 2 is journaled in said frame. Said shaft is provided in its middle with the rigid pulley 3. The rope 4 winds on the shaft 2 on one side of the pulley 3, and the rope 5 winds on the shaft 2 on the other side of the pulley 3. When one rope is wound on the shaft, the other rope is unwound, and vice versa. Normally the rope 4 is wound on the shaft and the rope 5 is wound on the spool 6, also journaled in the frame 1.

The frame 1 has pivoted to it a frame or lever 7, upon which is mounted a brake-shoe 8, which comes in contact with the periphery of the pulley 3. The said pivoted frame or lever thus forms a brake, and it is operated by the ropes 4 and 5, which pass from the shaft 2 down and under suitable rollers 9 9, located on the brake and then up and out of the window. (See Fig. 1.) The rollers 9 9 are to reduce the friction on the ropes. Any other means may be provided whereby the ropes will pass around and operate the lever.

The device operates as follows: It is arranged as shown in Fig. 2, which is its normal arrangement. A person wishing to descend takes the rope 4 and swings himself out of the window. The rope, passing under the roller 9, brings the brake-shoe 8 up against the periphery of the pulley 3, and hence the descent of the person is gradual. At the same time the rope 4 is being unwound the rope 5 is being wound on the shaft 2 from the spool 6, and when the first person reaches the

ground said rope 5 is ready for a second person. Said rope 5 also operates the brake, as described, and as the said rope 5 unwinds the rope 4 is rewound on the shaft 2. Hence the device will operate continuously in lowering persons and the brake will adjust itself to suit any weight, for a heavy person will make the friction on the periphery of the pulley 3 great, and thus the force of gravity is overcome sufficiently to allow the device to operate gradually, while a light person will make the friction on the periphery of the pulley 3 less, and thus the force of gravity is overcome sufficiently to allow the device to operate gradually. The light person and the heavy person will descend at about the same rate of speed.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A fire escape consisting of a journaled shaft having a rigid pulley, a lever extending parallel with the shaft and having a brake-shoe adapted to come in contact with the periphery of said pulley, a rope adapted to wind and unwind on the shaft, said rope passing from the shaft around a portion of the brake lever and then away from the lever in such manner as to operate the brake, said rope also having a lateral play along said lever, as set forth.

2. A fire escape consisting of a journaled shaft having a rigid pulley located thereon intermediate of its two ends; a rope secured to the said shaft on each side of the pulley, one rope adapted to wind on the shaft while the other is unwinding and vice versa; a lever parallel to the shaft and having a brake shoe adapted to come in contact with the periphery of said pulley, said ropes passing from the shaft around a portion of the brake lever and then away from the lever in such manner as to operate the brake, said ropes also having a lateral play along said levers, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN R. DUNCAN.

Witnesses:

P. T. SIPES,

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